

PATENT COOPERATION TREATY

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17. APR 2000

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From the INTERNATIONAL BUREAU

To:

MEYERS, Hans-Wilhelm
Postfach 10 22 41
D-50462 Cologne
ALLEMAGNE

**NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT**

(PCT Administrative Instructions, Section 411)

Date of mailing (day/month/year) 07 April 2000 (07.04.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference 000039woMekk	
International application No. PCT/EP00/00117	
International publication date (day/month/year) Not yet published	
Applicant MIRA DIAGNOSTICA GmbH et al	International filing date (day/month/year) 10 January 2000 (10.01.00) Priority date (day/month/year) 11 January 1999 (11.01.99)

- The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
- This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
- An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
- The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
11 Janu 1999 (11.01.99)	99100416.9	EP	30 Marc 2000 (30.03.00)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

Marc Salzman

Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 000039woMekk		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/00117	International filing date (day/month/year) 10/01/2000	Priority date (day/month/year) 11/01/1999	
International Patent Classification (IPC) or national classification and IPC B01J20/32			
Applicant MIRA DIAGNOSTICA GmbH et al.			



1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 27/06/2000	Date of completion of this report 13.10.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Pielka, I Telephone No. +49 89 2399 8357 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/00117

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-11 as originally filed

Claims, No.:

1-11 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-11
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-11
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-11
	No:	Claims	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/00117

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

1. Claim 1 relates to a composite material which has a support at least partially covered by a hydrophobic polymer comprising fluorine moieties. The subject-matter of claim 1 is defined in terms of the process by which it is made, notably that the support is contacted with a crosslinkable compound having at least one olefinic double bond and then fluorinated.

This subject-matter is novel in the light of the documents cited in the Search Report, notably:

D1: US-A-5 744 257 (CARSTENS) 28 April 1998 (1998-04-28)

D2: EP-A-0 648 777 (BECTON DICKINSON CO) 19 April 1995 (1995-04-19)

D3: DATABASE WPI Week 9807 Derwent Publications Ltd., London, GB; AN 98-075292 XP002102878 & RU 2 080 905 A (BIOORGANIC CHEM INST), 10 June 1997 (1997-06-10)

D1 discloses a composite material comprising a cementitious matrix and a re-inforcing component. The re-inforcing component, which can be a crosslinkable compound having at least one olefinic double bond, is fluorinated prior to incorporation into the matrix. No mention is made of the surface of the support being covered with a hydrophobic polymer which is then fluorinated

D2 discloses a fluorinated surface, but where no mention is made of a hydrophobic polymer.

D3 discloses a silica support which is treated with vinyl methyl dichlorosilane after which it is irradiated with γ -radiation and treated with trifluorostyrene. The fluorination of a hydrophobic polymer on the surface of the support is not disclosed.

Claim 1 thus meets the requirements of **Article 33(2) PCT**.

2. Claims 2 to 5, being dependent on claim 1, also meet the requirements of **Article 33(2) PCT**.
3. The problem to be solved is the provision of a material which will bind proteins

and RNA, but not DNA.

This problem has been solved by the subject-matter of claim 1, as can be seen from the examples.

This subject-matter could not have been derived from D1, since this is concerned with a different technical field, notably cement.

Neither could it have been derived from D2 which is concerned with a hydrophilic support for binding DNA, exactly the opposite of the claimed subject-matter.

With regard to D3, this involves completely different steps, including gamma radiation.

Thus the subject-matter of claim 1 meets the requirements of **Article 33(3) PCT**.

4. With regard to the independent claims 6, 8, 9, 10 and 11, which relate to a method of molecule separation using the composite of claim 1, a chromatographic column filled with the composite of claim 1, a membrane-like material comprising the composite of claim 1 and the use of the composite of claim 1 in chromatographic operations respectively, these too fulfill the requirements of **Articles 33(2) and (3) PCT** since their subject-matter is novel and inventive by virtue of the composite of claim 1.
5. In claim 2 there is a linguistic error, notably that oxides of alumina are used. Since alumina is an oxide of aluminium, the word "aluminium" should be substituted for "alumina".
6. Certain claims do not meet the requirements of **Article 6 PCT**.
Claim 4 has no support in the description since in claim 4 the range specified is 2 Da to 300 Da, whereas in the description at page 3, fourth paragraph, the range 2 kDa to 300 kDa is stated.
The wording of independent claim 10 is unclear since it seeks to incorporate three different claims, notably claims 1, 8 and 9.
7. The description does not indicate any relevant background art as required by **Rule 5.1(a) (ii) PCT**.